

AD-A234 151

**AirLand Battle Imperatives: Do They  
Apply to Future Contingency Operations?**

**A Monograph  
by  
Major Terry M. Peck  
Aviation**



**School of Advanced Military Studies  
United States Army Command and General Staff College  
Fort Leavenworth, Kansas**

**Second Term, AY 89/90**

**Approved for Public Release; Distribution is Unlimited**

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE

## REPORT DOCUMENTATION PAGE

Form Approved  
OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED		1b. RESTRICTIVE MARKINGS	
2a. SECURITY CLASSIFICATION AUTHORITY		3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution unlimited.	
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE		5. MONITORING ORGANIZATION REPORT NUMBER(S)	
4. PERFORMING ORGANIZATION REPORT NUMBER(S)		7a. NAME OF MONITORING ORGANIZATION	
6a. NAME OF PERFORMING ORGANIZATION School of Advanced Military Studies, USACGSC	6b. OFFICE SYMBOL (If applicable) ATZL-SWV	7b. ADDRESS (City, State, and ZIP Code)	
8a. NAME OF FUNDING/SPONSORING ORGANIZATION		9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER	
8b. OFFICE SYMBOL (If applicable)		10. SOURCE OF FUNDING NUMBERS	
8c. ADDRESS (City, State, and ZIP Code) Fort Leavenworth, Kansas 66027-6900		PROGRAM ELEMENT NO.	PROJECT NO.
		TASK NO.	WORK UNIT ACCESSION NO.
11. TITLE (Include Security Classification) AIRLAND BATTLE IMPERATIVES: Do They Apply to Future Contingency Operations? (U)			
12. PERSONAL AUTHOR(S) MAJ Terry M. Peck, USA			
13a. TYPE OF REPORT Monograph	13b. TIME COVERED FROM _____ TO _____	14. DATE OF REPORT (Year, Month, Day) 90/5/21	15. PAGE COUNT 49
16. SUPPLEMENTARY NOTATION			
17. COSATI CODES		18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)	
FIELD	GROUP	SUB-GROUP	
		Operational doctrine Low Intensity Conflict	
		AirLand Battle Imperatives Just Cause	
		Operation Urgent Fury Contingency Operations	
19. ABSTRACT (Continue on reverse if necessary and identify by block number)			
<p>The 1982 publication of FM 100-5, <u>Operations</u>, established AirLand Battle as the operational and tactical doctrine of the U.S. Army. This doctrine, reaffirmed in the 1986 publication of the manual, is based on the principles of war, and uses tenets and imperatives of combat to reinforce its fundamental concepts. Although it was not solely developed for high-intensity, large unit warfare on the European continent, the manual does focus on that theater and its mission with the result that the keystone manual for U.S. Army doctrine concentrates on mid- to high-intensity combat in a general war situation based on the most likely and dangerous threat.</p> <p>Since the 1986 publication of FM 100-5, significant changes have taken place in the threat. The Soviet Union/Warsaw Pact are engaging in arms talks with NATO, and the Soviet Union is consolidating its resources within its republics to focus efforts on critical internal economic, social and political</p>			
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT <input type="checkbox"/> DTIC USERS		21. ABSTRACT SECURITY CLASSIFICATION	
22a. NAME OF RESPONSIBLE INDIVIDUAL MAJ Terry M. Peck		22b. TELEPHONE (Include Area Code) (913) 684-2138	22c. OFFICE SYMBOL ATZL-SWV

BLOCK 19 (continued)

problems. While the threat in Europe lessens, the United States has found it necessary to conduct two significant contingency operations within the western hemisphere to eliminate threats to U.S. strategic interests in that region. These world changes have resulted in the most dangerous threat continuing to be the Soviet Union, but the most likely clearly becoming Third World operations detrimental to U.S. strategic interests.

These changes have altered the Army's focus from primarily the European region and the mission of forward deployment, to a balanced focus, giving equal importance to forward deployment and contingency operations. This change will have a significant effect on doctrine, equipment and training in the next decade. In 1991, the U.S. Army will update FM 100-5. This paper addresses the applicability of the imperatives of the U.S. Army's doctrine to contingency operations conducted since the doctrine was adopted. It also addresses future contingency operations as posited by the AirLand Battle Future study approved by the Chief of Staff of the Army.

The study found that the imperatives in FM 100-5 are combat imperatives which do not address the fundamental requirements of contingency operations across the operational continuum. Contingency operations require execution of both combat and civil-military missions. Since the FM 100-5 imperatives are combat focused, they lack the robustness for successful planning of these types of operations. This was supported by historical review of the "Urgent Fury" and "Just Cause" operations.

The study recommended that the low intensity conflict imperatives found in FM 100-20, Military Operations in Low Intensity Conflict be integrated in the AirLand Battle imperatives in some manner during the current update of FM 100-5. Failure to incorporate them will result in retention of an inherent weakness in the U.S. Army's operational doctrine for planning throughout the operational continuum, and ultimately result in an inability to appropriately tie military ways to strategic ends.

School of Advanced Military Studies  
Monograph Approval



A-1

Name of Student: Major Terry M. Peck  
Title of Monograph: AirLand Battle Imperatives: Do They  
Apply to Future Contingency Operations?

Approved by:

James J. Schneider  
James J. Schneider, MA

Monograph Director

William H. Janes  
Colonel William H. Janes, MA, MMAS

Director, School of  
Advanced Military  
Studies

Philip J. Brookes  
Philip J. Brookes, Ph.D.

Director, Graduate  
Degree Programs

Accepted this 29<sup>th</sup> day of May 1990.

## ABSTRACT

AIRLAND BATTLE IMPERATIVES: Do They Apply to Future Contingency Operations? by Major Terry M. Peck, USA, 49 pages.

The 1982 publication of FM 100-5, Operations, established AirLand Battle as the operational and tactical doctrine of the U.S. Army. This doctrine, reaffirmed in the 1986 publication of the manual, is based on the principles of war, and uses tenets and imperatives of combat to reinforce its fundamental concepts. Although it was not solely developed for high-intensity, large unit warfare on the European continent, the manual does focus on that theater and its mission with the result that the keystone manual for U.S. Army doctrine concentrates on mid- to high-intensity combat in a general war situation based on the most likely and dangerous threat.

Since the 1986 publication of FM 100-5, significant changes have taken place in the threat. The Soviet Union/Warsaw Pact are engaging in arms talks with NATO, and the Soviet Union is consolidating its resources within its republics to focus efforts on critical internal economic, social and political problems. While the threat in Europe lessens, the United States has found it necessary to conduct two significant contingency operations within the western hemisphere to eliminate threats to U.S. strategic interests in that region. These world changes have resulted in the most dangerous threat continuing to be the Soviet Union, but the most likely clearly becoming Third World operations detrimental to U.S. strategic interests.

These changes have altered the Army's focus from primarily the European region and the mission of forward deployment, to a balanced focus, giving equal importance to forward deployment and contingency operations. This change will have a significant effect on doctrine, equipment and training in the next decade. In 1991, the U.S. Army will update FM 100-5. This paper addresses the applicability of the imperatives of the U.S. Army's doctrine to contingency operations conducted since the doctrine was adopted. It also addresses future contingency operations as posited by the AirLand Battle Future study approved by the Chief of Staff of the Army.

The study found that the imperatives in FM 100-5 are combat imperatives which do not address the fundamental requirements of contingency operations across the operational continuum. Contingency operations require execution of both combat and civil-military missions. Since the FM 100-5 imperatives are combat focused, they lack the robustness for successful planning of these types of operations. This was supported by historical review of the "Urgent Fury" and "Just Cause" operations.

The study recommended that the low intensity conflict imperatives found in FM 100-20, Military Operations in Low Intensity Conflict be integrated into the AirLand Battle imperatives in some manner during the current update of FM 100-5. Failure to incorporate them will result in retention of an inherent weakness in the U.S. Army's operational doctrine for planning throughout the operational continuum, and ultimately result in an inability to appropriately tie military ways to strategic ends.

Table of Contents	Page
I. Introduction . . . . .	1
II. AirLand Battle - Doctrine in Transition . .	3
III. Operation Urgent Fury . . . . .	10
IV. Operation Just Cause. . . . .	20
V. Conclusions . . . . .	31
Endnotes . . . . .	35
Bibliography . . . . .	46

## Introduction

The principles of war are identified as the "bedrock of U.S. Army doctrine". (1) With the publication of the 1982 edition of FM 100-5, Operations, AirLand Battle was identified as the operational and tactical doctrine of the U.S. Army. AirLand Battle doctrine expands on the principles of war with the characteristics of successful operations which are its tenets, from which all supportive tactical doctrine is derived. Subordinate to the tenets, AirLand Battle doctrine identifies key operating requirements called imperatives, which are fundamentally necessary for success on the modern battlefield. Although not solely developed to meet the needs of high-intensity, large unit warfare on the European continent, AirLand Battle doctrine nevertheless focuses on that theater and its operations as the U.S. Army's primary mission to counter the greatest threat to U.S. strategic interests. (2)

In 1990, as the U.S. Army prepares to update FM 100-5, its primary mission is in fact changing. With the nuclear and conventional force reduction agreements currently being discussed by the Warsaw Pact and the North Atlantic Treaty Organization (NATO), and the apparent withdrawal of Soviet forces from eastern Europe, the primary mission of the U.S. Army appears to be changing from one of forward deployment and its supporting reinforcement mission, to one of global contingency operations. Although this mission is not new

for the U.S. Army, it has been a secondary mission during the "Cold War" years because of the overwhelming Soviet threat to Europe. As the primary mission of the Army changes, it is prudent to review the basic foundation for AirLand Battle doctrine to ensure its validity in execution of future requirements.(3) A key part of that doctrine, the imperatives, will be the focus of this paper.

The imperatives of AirLand Battle, as addressed in FM 100-5, are intended to give more specific guidance to the executor at the operational level of war than do the principles of war or the tenets. Since the AirLand Battle imperatives have been proposed as "historically valid and fundamentally necessary for success on the modern battlefield"(4), I will examine their applicability on the future battlefield as envisioned in the AirLand Battle - Future study approved by the Chief of Staff of the Army. I will then look for evidence supportive of the imperatives in historical documentation from contingency operations which have occurred since implementation of AirLand Battle doctrine; specifically, operations "Urgent Fury" and "Just Cause".

This focus toward contingency missions is based upon two facts. First, that the imperatives as part of AirLand Battle doctrine have been tested in combat only during contingency operations and not in a combat environment similar to the one envisioned in Europe. Secondly, that the Chief of Staff of the U.S. Army has identified the



importance of contingency operations as a future primary mission of the U.S. Army. Additionally, although the contingency missions reviewed involve joint planning and execution at the operational level, I will address only the U.S. Army's performance in my historical analysis, since AirLand Battle doctrine as delineated in FM 100-5 is not joint doctrine. (5)

#### AirLand Battle - Doctrine in Transition

Since the establishment of NATO in 1949, the primary mission of the U.S. Army has been to assist that organization in deterring the Soviet Union and its Warsaw Pact allies from attacking western Europe. Should deterrence fail, the mission changed to defeating the attacking forces and reestablishing the pre-hostilities border. The means for executing this mission have been through forward deployed forces and designated reinforcing forces for the theater. This primary mission strongly influenced the development of doctrine, or the ways, for all U.S. Army forces. Through the Pentomic era into the Reorganization Objectives Army Division (ROAD) concept and its supporting doctrines, the basic focus has been toward force employment in Europe based upon the forward deployment of forces, up to and including the current AirLand Battle doctrine in FM 100-5, dated May 1986. (6)

With a focus toward mid- to high-intensity, large mechanized unit combat, FM 100-5 attempted to meet the requirements of low intensity conflict (LIC) as found historically in U.S. contingency operations without making the 'keystone' manual too generic. It did this by referring to FM 100-20, Military Operations in Low Intensity Conflict, as the detailed manual at that end of the conflict spectrum. This sufficed as long as forward deployment remained the U.S. Army's unchallenged primary mission. However, as global contingency operations gain in relative importance and become the U.S. Army's primary mission regardless of the level of conflict, the imperatives in FM 100-5 and the LIC imperatives in FM 100-20 must be reviewed. Since these imperatives are not the same but are necessary for contingency operations, integration is required if the U.S. Army is to execute its missions effectively. (7) This need for integration has been demonstrated by U.S. Army execution in both Grenada and Panama as will be shown in the historical analysis.

What is the divergence in the FM 100-5 and FM 100-20 imperatives and what is the significance of that divergence? The divergence in imperatives is essentially based on FM 100-5's emphasis on combat operations, and FM 100-20's emphasis on operations short of war. Both operations are equally important in contingency missions and rightfully must be addressed. FM 100-5's imperatives are as follows:

Ensure unity of effort      Press the fight

Anticipate events on  
the battlefield

Concentrate combat power  
against enemy vulnerabilities

Designate, sustain,  
and shift the main  
effort.

Combine arms and sister  
services to complement and  
reinforce.

Move fast, strike  
hard, and finish  
rapidly.

Understand the effects of  
battle on soldiers, units,  
and leaders.

Conserve strength for  
decisive action.

Use terrain, weather, OPSEC,  
and deception.

They give specific focus to the operational combat planner/  
executor when confronted with an enemy military force in  
the field.(8)

FM 100-20's imperatives are:

Political dominance

Unity of effort

Adaptability

Legitimacy

Perseverance

They give specific focus to the operational Foreign  
Internal Development (FID) planner/executor when confronted  
with an insurgency or terrorist force.(9) Even when  
exactly the same terminology is used such as 'unity of  
effort', it is defined differently. In FM 100-5, 'unity of  
effort' refers to a well understood doctrine, effective  
system of command and sound standing operating procedures  
(SOPs) to reduce friction in combat. While in FM 100-20,  
'unity of effort' refers to integration of military efforts  
with other government agencies to gain mutual advantage in  
operations short of war. This example illuminates the  
significance of the divergence. With contingency  
operations, containing both combat operations and  
operations short of war, as a primary mission for the U.S.

Army in the future, an integration of these imperatives into one clearly articulated list is essential as a precursor to realigning doctrine within the updated FM 100-5. This alignment will facilitate execution of future operations as posited by the AirLand Battle Future study. (10)

The AirLand Battle Future study establishes the requirement early in its introduction that the Army's future doctrine must address combat operations and operations short of war in an interactive manner. The ability to link these two types of operations at the operational level and transition from one to the other during the execution of a contingency mission, appears to be a shortfall in our AirLand Battle imperatives as they deal with contingency operations (see fig. 1, pg. 7).

In addressing the global environment, the AirLand Battle Future study clearly states that the Soviet Union and its aligned nations will use all aspects of their national power to exploit regional instabilities and further their national strategies while undermining those of the United States. In combating our opponents' efforts to undermine our strategy, the military will not be limited to force as an option, and most probably force will not be the first option executed by the military. Instead, the military will synergistically combine its capabilities short of war with other government agencies to preserve the peace and allow for change that is supportive of our

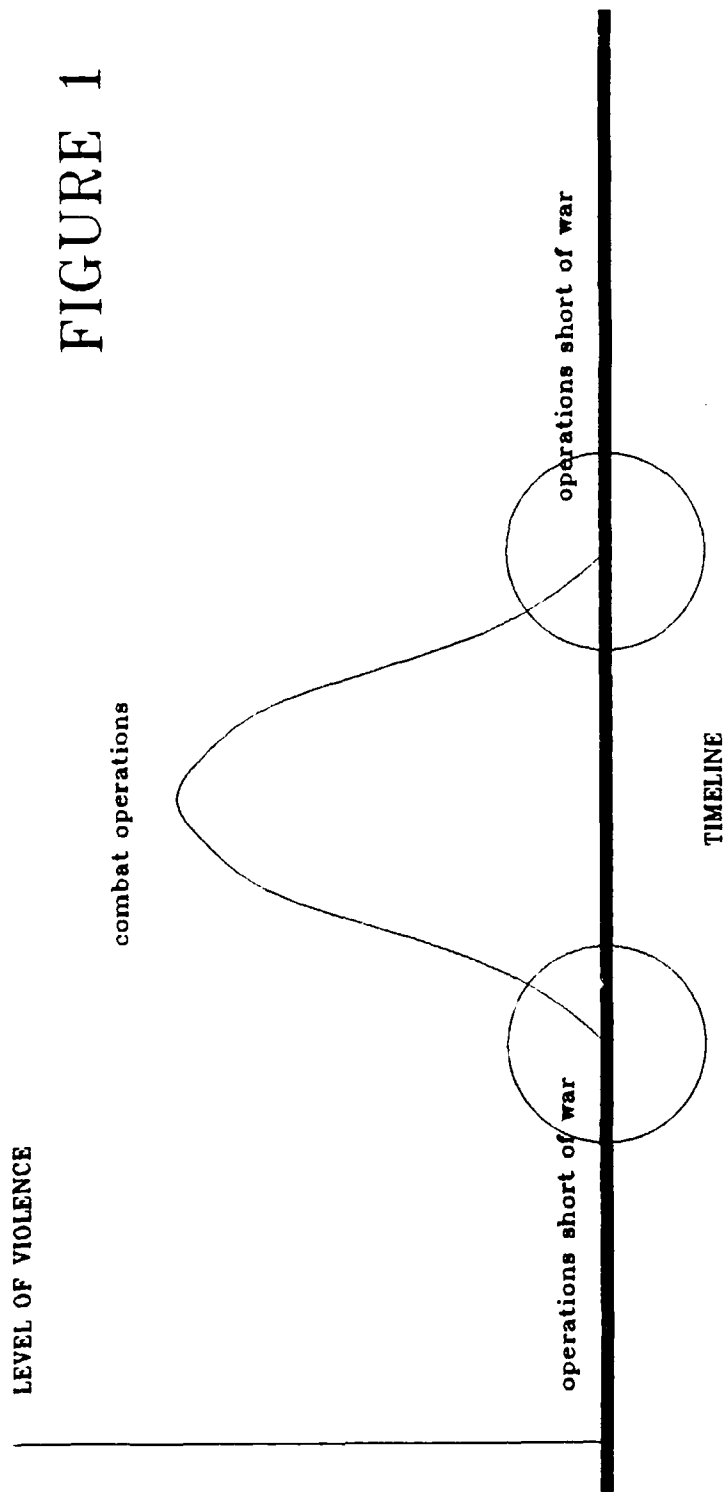


FIGURE 1

In contingency operations, as operations short of war continue along a timeline, they are initially controlled by agencies outside DOD. However, as combat operations become imminent (left circle on the timeline), control passes to the military, combat operations are conducted and when combat operations are completed and an environment equating to operations short of war exists again (right circle on the timeline), control passes back to a non-military agency. In each of the circled areas, military operational planners must plan for transition to and from combat operations in as much detail as they plan for the actual combat. The imperatives of FM 100-5 must address this as a fundamental requirement for future doctrinal planning.

national strategy. Based on this position for military action across the operational continuum, the U.S. Army must be able to plan (strategically and operationally) and execute (operationally and tactically) anywhere within that continuum in support of national interests without creating a situation which could cause vertical or horizontal escalation. Aligned with this requirement is the need to be able to mesh Army doctrine with joint and combined doctrine, globally and regionally.(11)

It is expected that U.S. Army involvement in achievement of strategic objectives will be phased and integrated with other instruments of national power in most future operations. As a result, the application of combat power in a general war will have diminishing utility in the pursuit of national objectives due to the potential for unacceptable escalation in forces, area or time. For this reason, the U.S. Army and its doctrine must orient from a primary focus toward application of combat power to achieve military objectives, to one establishing a more indirect and balanced approach. The Army must secure those same objectives using operations short of war and/or in cooperation with other agencies of national power.(12) The latter approach is clearly addressed in the AirLand Battle Future study.

The AirLand Battle Future study addresses future roles for the Army from the perspective that the Army must have forces capable of operating across the operational

continuum. This means forces capable of defending U.S. interests in conventional terms (ie large unit combat operations) and forces capable of executing in operations short of war to support other instruments of national power. Conventional combat forces and forces which support civil-military operations should not operate exclusive of each other, but rather complement each other in the pursuit of the same objective. (13)

Along with this synchronized effort, early commitment of the appropriate type forces in most contingency operations regardless of level of conflict, lessens the amount of resources it takes to control enemy actions. This early commitment also denies the enemy the opportunity to apply new resources in order to prolong the conflict. For the Army, this concept requires a doctrine that provides a balanced perspective in terms of application of resources by type, amount, and time of application to ensure successful execution across the operational continuum. Based on these considerations, it appears that the future FM 100-5 must integrate the imperatives currently a part of that manual with some which address operations short of war, such as those listed in FM 100-20. This would create a new list of imperatives that clearly addresses the "fundamental requirements" the Army would need to execute in order to conduct successful contingency operations which could cover the operational continuum. (14)

The AirLand Battle Future study has provided the Army

with this concept of integration of imperatives. However, in order to ensure the direction we are taking with our doctrine is valid for contingency operations, it is necessary for the Army to look for historical documentation supportive of these concepts. Since the U.S. Army's adoption of AirLand Battle as its doctrine, there have been no conventional, large unit, high-intensity operations to prove or disprove its validity. There have however been two significant contingency operations during this period from which we can draw conclusions concerning AirLand Battle and applicability to contingency operations.

Operation "Urgent Fury", in October, 1983 is an excellent example of contingency operations conducted within the crisis action planning process. Operation "Just Cause" in December, 1989 is an excellent example of contingency operations conducted with deliberate planning. (15) I will review each from the operational level to determine if AirLand Battle imperatives were applied and the result. I will also review each operation with the imperatives from FM 100-20 to determine if and where they were applied.

#### Operation Urgent Fury

Operation "Urgent Fury" was executed on 25 October, 1983, as a short notice, contingency operation to safeguard



the lives of United States and friendly foreign national citizens, and reestablish democracy on the island nation of Grenada.(16) Executed under the Crisis Action Procedures (CAP) discussed in the Joint Operation Planning System (JOPS), Volume IV, the operation consisted of joint Army, Navy, Marine and Air Force missions. The significant combat portion of the operation was successfully concluded in three days and the overall operation completed by the end of the year.(17)

The U.S. Army's portion of the operation was to seize the Point Salines airstrip, secure Cuban military and construction compounds around that airstrip, seize and secure the "True Blue" Medical Campus and ultimately, secure the Grand Anse Campus. While Army forces were accomplishing these tasks, Marine forces were seizing the Pearls airstrip and Grenville, and then seized the capital city of St. George's. Once U.S. forces had secured the tactical objectives which achieved the operational goals, effective enemy resistance ended. The next day, day three of the operation, all U.S. ground forces focused their efforts on rounding up Grenadian army prisoners.(18)

With this general overview, we set the stage for looking at the AirLand Battle imperatives and determining if they were adhered to by U.S. Army forces during this operation. To determine if there was unity of effort among U.S. Army forces, we'll look at the plan and how it was executed. The primary mission was to secure the Point

Salines airfield and rescue the students at the adjacent 'True Blue' campus. Additionally, the Army had a follow-on mission to secure the military and construction compounds surrounding the airfield and expand the airhead north. The following plans were made based on these missions. First, two battalions of rangers were to parachute onto the airfield, with the initial mission of securing the runway and ramp area, and then expand their area of control to secure the 'True Blue' campus. Follow-on forces from the 82nd Airborne Division were to parachute and airland behind the rangers to reinforce initially and then assume the mission of expanding the airhead and securing the military and construction compounds north of the airfield. Additional missions of securing St. Georges and the surrounding areas to the north, were to be sequels to the initial operations. (19)

The general operation was executed as planned. Control of U.S. Army forces on the ground passed from the ranger battalions to the 82nd Airborne Division headquarters as it became operational on Point Salines airfield. Close cooperation between the rangers and the 82nd Airborne Division was evident as airborne battalions replaced ranger battalions around the expanding perimeter. This allowed the rangers to prepare for an unanticipated operation to extract some American medical students from a campus annex at Grand Anse and to prepare for extraction back to the United States. Clearly specified objectives, a single line

of command and control which smoothly transitioned from the rangers to the airborne division, and close cooperation between ranger and airborne forces at the tactical level ensured unity of effort. (20)

Unity of effort was key to the U.S. Army's ability to anticipate events on the battlefield. Prior to execution, there was little strategic intelligence available on what the Army was to expect in the numbers of enemy combatants and their will to fight. As a result, the small amount of tactical intelligence gathered as initial combat ensued was critical to anticipating where force needed to be applied and in what strength. It became apparent that in contingency operations executed under crisis action procedures, where you do not have time to collect intelligence on your opponent, it is virtually impossible to anticipate events on the battlefield. This is especially true when actual combat operations are expected to last only 24 to 72 hours. (21)

This lack of strategic intelligence prior to operations also hampered our ability to concentrate combat power against the enemy's vulnerabilities. The only advantage U.S. forces had in attempting to achieve this imperative was that the enemy force did not anticipate the operation, and as such did not concentrate his combat power at critical installations. In fact, if the enemy had anticipated U.S. operations, the essential requirements to secure the airfields and rescue the students could have

necessitated U.S. forces concentrating against known enemy strengths in opposition to this imperative. (22)

Those essential requirements translate into the main effort during this contingency operation, and as such, the imperative of designating and sustaining the main effort was adhered to. The third part of the imperative shifting the main effort did not present itself at the operational level, since no adjustment to the initial strategic directives was required during this operation. I feel that it is important to note that in time-sensitive contingency operations, designating and sustaining the main effort, in the sense of identifying strategic goals early and accurately, and aligning operational means and ways to achieve those goals is paramount in ensuring the greatest probability for success. (23)

By designating and sustaining the main effort, the Army commander during every phase could achieve the next two imperatives of pressing the fight and moving fast, striking hard, and finishing rapidly within the limits of operational Rules Of Engagement (ROE). The caveat of ROE is critical to the application of these imperatives in contingency operations, as clearly pointed out during 'Urgent Fury'. The limited use of indirect fire systems, close air support, and concentrated direct fire to reduce the collateral damage, substantially affected the speed with which U.S. Army forces could achieve their objectives. The Army came under criticism for over

application of mass, without the anticipated returns of rapid success. The ROE for the operation were significant contributors to the generation of that criticism. (24)

Use of terrain, weather, deception and OPSEC was achieved to a limited degree from the decision by both CINCLANT and the U.S. Army leadership to use forces that would not require significant preparation. This prevented the Soviet Union and other nations sympathetic to the new Grenadian government from becoming aware of an ensuing operation. Additionally, since terrain was dominated by steep hills with dense vegetation and there existed a requirement to occupy and secure the airfield and campuses rapidly, the selection of the drop zone and landing zone for U.S. operations was limited to the immediate vicinity of Point Salines. We failed to exploit this imperative entirely by not using night operations to better advantage. This was due primarily to movement delays and some hesitation on the part of leadership due to uncertainty. (25)

The same concern for speed of action in securing the airfield and rescuing the students that drove so many decisions, prevented any true conservation of strength for decisive action. Due to surprise, absence of significant combat forces, and lack of will to fight on the part of most Grenadian forces, little need existed at the tactical level to conserve or build-up forces prior to engaging in decisive action. Since the United States could and did

generate the requisite force or combat power through joint operations to terminate hostilities quickly, this eliminated the need for conservation of strength for follow-on operations. (26)

The ability to use combined arms and sister services to complement and reinforce was evident throughout the operation. When the U.S. Army forces confronted the bulk of the island's combat forces around Point Salines, the Army/Marine boundary was quickly realigned to provide the Marines more latitude for operations around St. George's. U.S. Marine and U.S. Air Force close air support proved vital for several joint service operations at the governor-general's house, around Point Salines, and during the Grand Anse Campus air assault operation. This imperative and the next, are two of the potentially most difficult to achieve but tremendously critical for contingency operations. (27)

Understanding the effect of battle on soldiers, units, and leaders is an imperative that has to be accomplished almost before the operation commences. Once soldiers as parts of units become immersed in combat, their actions and reactions happen so rapidly that ultimate consequences usually can not be determined until well after the operation is over. On Grenada, troops encountered several imponderables of combat: inadequate uniforms for the 100 degree heat, death of comrades, chaotic destruction, and the potential lethality of high technology weapon systems.

Some of these problems were foreseen and weighed heavily on the U. S. Army leadership at every level. Others, like the failure to provide proper uniforms, were not. (28)

All combat imperatives found in FM 100-5 had potential application and all were addressed in some manner during operations. Difficulty occurred because the contingency operation had to be executed on short notice, under restrictive ROE and with limited intelligence on the Area of Operations (AO). These constraints, coupled with the planning focus on the combat portions anticipated during the operation, caused the leaders and forces to execute haltingly as the combat phase ended and the civil-military phase began. The combat imperatives were applicable because "Urgent Fury" had combat conducted. However, once the operation transitioned to the peacekeeping and civil-military operations phase, military operations became less organized and effective. It is in this phase that the low intensity conflict imperatives become operative, if they are applied. (29)

The low intensity conflict imperatives are different in both degree and kind to those of FM 100-5. They are based primarily on detailed planning and intelligence, and long term commitment of resources. The first of the LIC imperatives, political dominance was clearly apparent in planning and execution of "Urgent Fury". The primary strategic goal of protecting American students on the island was purely a political one. Additionally, the rules

of engagement limited death and destruction on the island, but hindered military execution. The ROE was unquestionably necessary to ensure political support for U.S. operations on the island by outside nations. Finally, the utilization of a multi-national force, although not necessary for military success, helped mitigate accusations that the Grenadan operation was merely U.S. regional intimidation of its Caribbean neighbors. (30)

The support of the Caribbean nations provided substantial legitimacy for the conduct of operation "Urgent Fury". Although the United States expressed great concern for the safety of the American students on the island, the fact that there were military concerns about expanding Cuban influence could not be denied. The execution of a multi-national operation, use of restrictive ROE, and expeditious extraction of U.S. combat forces following the combat actions, contributed to the legitimacy of the operation. (31)

That same multi-national force was a demonstration of the unity of effort by Department of State and Department of Defense for the operation. Organization of the force was executed at the strategic level. Employment of the force was conducted at the operational level. Since the United States did not want a long term commitment of forces on Grenada, the application of a Caribbean multi-national force to support U.S. forces was critical to the post-combat phase of operations. The multi-national force



provided the core of personnel for civil-military operations long after the bulk of U.S. forces departed. (32)

Adaptability was the least obvious of the LIC imperatives. This may have been a result of the time-sensitive nature of the operation and lack of hard intelligence. Adaptability is dependent on knowing the opposition well and having time to modify structure and/or methods of operation accordingly. Since the military forces involved only had five days to plan and execute the operation, the time necessary to collect information and modify forces was not available. This resulted in employment of those forces that were readily available, using methods that were not tailored to a known enemy. (33)

Perseverance in an operation such as "Urgent Fury" is only evident long after combat operations are over. Although combat operations might establish the basic environment for positive political development, the long term development of a nation takes years of commitment through multiple sources of U.S. national power. As with the construction of a house, the ultimate success of contingency operations can only be determined many years later by the long term survival and persistence of the supported government. (34)

"Urgent Fury" demonstrated the necessity of guiding imperatives beyond those combat imperatives listed in FM 100-5, to meet the "fundamental requirements" of contingency operations. Contingency operations are more

than just combat actions. Therefore, imperatives such as those listed in FM 100-20 are also required to meet the operational requirements of contingency operations. Furthermore, since "Urgent Fury" was a crisis action operation and the stay behind force following combat operations was a multi-national force, the low intensity conflict imperatives themselves were difficult to address. This suggests that the LIC imperatives might need some adjustment to deal with CAP and multi-national operations.

The next historical review, operation "Just Cause", was planned over an 18 month period and execution is continuing today. "Just Cause" was an operation executed under deliberate planning procedures. It was also a unilateral operation by U.S. forces. As such, it should provide a significantly different perspective concerning the application of both the combat imperatives and the LIC imperatives than seen in "Urgent Fury". (35)

#### Operation Just Cause

Operation "Just Cause" was executed on 20 December, 1989, as a deliberately planned, contingency operation. Its purpose was to safeguard the lives of United States citizens, support the democratic institutions in Panama, ensure the safe operation of the Panama Canal, and apprehend General Manuel Noriega. "Just Cause" was

executed under the deliberate planning procedures discussed in the Joint Operation Planning System (JOPS), Volumes I through III. The operation consisted of joint missions, resulting in successful conclusion of the combat portion of the operation in 24 hours. The overall operation continues today in support of the new Panamanian government. (36)

During "Urgent Fury" the U.S. Navy had the operational command, and the Army provided the bulk of the ground forces involved in the operation. For "Just Cause", the U.S. Army was the operational level headquarters for planning and execution. Planned essentially as a "coup de main", the operation sought to minimize both friendly and opposing force casualties and limit collateral damage. U. S. forces were to strike 27 targets simultaneously at H-hour to accomplish a threefold operational mission. First, to decapitate the political and military leadership from its forces. Secondly, to isolate and force the surrender of or eliminate Panamanian Defense Forces (PDF). Finally, to seal the country to prevent General Noriega's escape and/or outside interference. Force projections for the operation were based on worst case combat operations. However, a key objective of the coup de main, which was to persuade the bulk of the PDF to surrender, was an unqualified success. From this background information, I will address the application of the AirLand Battle imperatives. In so doing, I will provide some of the key considerations that helped determine the objectives of this

contingency operation. (37)

Unity of Effort began with the updating of OPLAN 'Blue Spoon'. This was the USSOUTHCOM plan for the defense of the canal and surrounding installations. In June 1988, the SOUTHCOM staff began to review and update 'Blue Spoon'. This occurred because of increasing hostility between the newly established government of Manuel Noriega and the government of the United States. Between July 1988 and October 1989, that plan was reviewed and revised to ensure potential strategic targets were identified and appropriate military means were earmarked to strike those targets. During this period of planning, President Bush attempted to convince General Noriega to step down through economic and political pressure. These attempts resulted in increased hostilities against U.S. citizens in Panama and an attempted coup in October 1989 against the Noriega government. Following the attempted coup, 'Blue Spoon' was renamed operation 'Just Cause' and prepared as a detailed contingency operation by the SOUTHCOM staff. Specific rehearsals, and coordination meetings were conducted to ensure complete unity of effort throughout the entire force. On 20 December, six task forces conducted 27 simultaneous attacks on critical tactical and operational targets. The purpose of these strikes was to destroy the cohesion of the political and military organizations in Panama. Within 7 hours all objectives had been effectively isolated. Within 24 hours all targets had been either

destroyed or had surrendered. This admirable unity of effort was the result of two factors. The first was having the time available for detailed planning and the second was that the troops were highly trained.(38)

Time was also essential in our attempts to anticipate events on the battlefield. In a coup de main, it is essential that you not overlook any critical objectives or targets. The SOUTHCOM staff was able to scrutinize the possible targets and clearly identify the critical ones based on three key indicators. First, the PDF had been trained primarily by U.S. forces. This allowed the SOUTHCOM staff to determine the combat capability of each PDF company prior to the operation. This information enabled the operational commander to concentrate forces accordingly. Second, the populace of Panama was friendly to the United States. This allowed the SOUTHCOM staff to review every aspect of the terrain and most Panamanian military installations prior to execution. Finally, by observing the October 1989 coup attempt, the SOUTHCOM staff was able to anticipate which forces would most likely respond during the initial hours of the operation. These and other indicators allowed the operation planners to anticipate events. Thus the planners were able to achieve the next imperative, concentrating combat power against enemy vulnerabilities.(39)

In executing a coup de main, the attacking force can create enemy vulnerabilities by achieving surprise in its

initial, overwhelming assault. With the in-depth analysis of enemy capabilities and probable reactions, this concentration of overwhelming combat power at each of the decisive points placed the PDF at an irrecoverable disadvantage. Operations at night, the employment of aviation assets and the use of armor protection, all successfully exploited the PDFs vulnerabilities in air defense systems and night optics. The result was a rapid seizure of key military objectives.(40)

The ability to designate and sustain the main effort against 27 objectives simultaneously may appear difficult to grasp at first. However, if we refer back to the strategic ends, the most effective method to achieve them becomes clear. The operational commander was required to safeguard Americans, support democracy, secure the Panama Canal, and capture General Noriega. Given these missions and the ROE, the type of operation which provided the highest probability of success for ensuring the strategic ends, was a coup de main. This overwhelming main effort provided popular isolation of the PDF, and isolated or destroyed Noriega's command and control mechanisms. Additionally, it sealed the Canal Zone from unauthorized personnel, and sealed the country to prevent Noriega from escaping. Essentially, all this was done at H-hour on D-Day.(41)

All the above mentioned accomplishments were possible because U.S. forces did in fact move fast, strike hard,

finish rapidly, and press the fight. I have put these two imperatives together as I did in the "Urgent Fury" overview because they are essentially interchangeable concepts. Nevertheless, the rapidity with which operation "Just Cause" was executed is its hallmark achievement. There appeared to be little doubt that the United States could at any time impose its will, militarily, on the Noriega regime. One could also argue that the United States could have had Noriega assassinated, or secreted out of the country. There was however significant doubt that the United States could surgically remove the Noriega regime from power, while concurrently suppressing or destroying the entirety of the PDF, and preventing reprisals against U.S. citizens and the Panama Canal. Even more doubt would have been voiced that it could be done by rapidly transporting 9,000 combatants from the United States to join 13,000 combatants in Panama and have most combat completed within 7 hours of darkness and all combat completed in 24 hours total. The fact that a joint U.S. operation could achieve this feat while restricting collateral damage and minimizing casualties is a testament to the lessons learned on Grenada, in Beirut, and in Iran. (42)

One of the key lessons learned from those operations was to use terrain, weather, deception, and OPSEC to best advantage. Time was a double-edged sword when applying this imperative to "Just Cause". The long preparation

phase allowed SOUTHCOM to analyze closely terrain, and position forces accordingly. Time also allowed for 'Sand Flea' and 'Purple Storm' training maneuvers to be executed within the canal zone area. These exercises, performed under the rights of the Canal Zone Treaty, became routine sights to the PDF stationed in the area. As a result, the PDF began to ignore the events and became susceptible to a deception plan. This plan allowed U. S. forces to position themselves prior to H-hour without raising undue interest by the PDF.(43)

Timing was also a disadvantage. At the time of execution, the weather in Panama was acceptable; however, an ice storm around Pope AFB in North Carolina delayed by several hours half of the 82nd Airborne Division's deployment. Additionally, fog around Travis AFB slowed the deployment of parts of the 7th Infantry Division. Time was also a source of friction in the area of OPSEC. As the plan for operation 'Just Cause' matured and was not executed, the potential for compromise increased daily. Since surprise was an overwhelming factor in the success of the operation, OPSEC was extremely crucial.(44)

Conserving strength for decisive action was a matter of orchestration for operation 'Just Cause'. During a simultaneous overwhelming assault on the critical objectives throughout a theater of operations, there is little loss of combat power prior to execution. Otherwise the operation will likely fail outright. There is,



however, an opportunity to give too much power to one task force and too little to another, or to piecemeal forces. In "Just Cause" the extensive planning time allowed for specific determination as to how much each task force needed to ensure it could accomplish its mission. During execution, the tenet of synchronization was most evident in the orchestration of forces for the initial, decisive action.(45)

The use of combined arms and sister services to complement and reinforce was also accomplished. Here the focus was on the ROE and the necessity to minimize collateral damage and casualties. Knowing that close air support and indirect fire were not selective enough to minimize collateral damage, a substitute was required. The M-551 Sheridan tank with its 152mm main gun and the AH-64 attack helicopter with its precision weapons systems were committed against the Comandancia to provide accurate direct fire support. Prepositioning of Sheridan tanks and AH-64 attack helicopters were but two examples of how combined arms integration was planned for.(46)

Application of sister service support was dependent on specific tasks which had to be completed. Navy SEALs were used to immobilize the Panamanian Navy and a small airfield (Paitilla) close to the waterline frequently used by Noriega. Task Force Semper Fidelis was an in-country force of Marines reinforced by out-of-country Marine counterterrorist teams. Its mission was to secure the

south side of the Bridge of the Americas and ensure security in what eventually became a 600 square kilometer Area of Operation (AO). This AO was saturated with homes of United States citizens vulnerable to Panamanian Defense Forces. U.S. Air Force assets flew both strategic lift for the initial paradrops and supporting airlandings. They also provided support with AC-130 gunships and F-117 stealth aircraft. (47)

Understanding the effects of battle on soldiers, units and leaders most of whom have never been in combat, was again critical in this operation as in "Urgent Fury". Because planners had almost 18 months to plan "Just Cause", very little was left to chance as to the detail of briefing and preparation the units received. However, no one can predict how a unit will react in its first combat actions. Instead, leaders must depend on the quality of the soldier and the level of training to provide the impetus necessary to ensure proper actions on contact. Overall the combat actions were superb, swift, and effective. All assigned objectives were seized. The decision is still out as to how leaders handled sequential operations after they had taken their initial objectives. Based on uncontrolled looting by the Panamanian populace, and some soldier misconduct, the post-combat letdown so clearly documented in history may have caught some leaders unprepared. Most importantly, it was the apparent inability to prepare our soldiers to transition swiftly from combatants to temporary

caretakers and nation-builders of a defeated country that appears to be our greatest failing in this operation. (48)

The inability to transition from "war" to "operations short of war" appears to be the current shortfall in our AirLand Battle imperatives as they should deal with contingency operations. The U.S. Army quickly provided civil affairs units, service support organizations and special forces teams to assist in reestablishing the governmental infrastructure in Panama. However, the erratic transition and frustratingly slow execution indicates that these operations were not a sequel to the combat operations, but rather an afterthought. As we look at the LIC imperatives, maybe we can identify areas that could have been better addressed. (49)

The first, political dominance was clearly a factor in preparation and execution. The strategic goals were all politically oriented, and the ROE was focused on ensuring the largest infrastructure possible would remain on which the new Panamanian government could build. Unity of Effort may be an area where adequate attention was not placed. CINCSOUTH and the United States Ambassador should have identified actions to be taken to provide safety and security in the void that the "Just Cause" combat operations would create. They should have anticipated the devastating impact destruction of the PDF would have on control of the population. Additionally, the rebuilding of the Panamanian infrastructure should have been planned in

detail. This planning should have included funding in order to ensure effective and efficient use of resources in the post-combat operations. Planning for civil-military operations was apparently not done in the same detail as the combat planning. (50)

Adaptability is the one LIC imperative which had the most potential for U.S. force control. Since the leaders of the new Panamanian government were available to U.S. leaders prior to the execution of "Just Cause", detailed agreements could have been worked out as to what role the United States would play in post-combat operations. This would have prevented initial misunderstandings or false expectations on the part of the new government once in power. Evidence shows that this type of coordination and preparation probably did not occur. This could have affected legitimacy; however, legitimacy was not a problem. The people of Panama had desired an end to General Noriega's rule long before "Just Cause". Once the legally elected government of Panama agreed to support the United States' action, no further legitimacy was required. The validity of this statement is evidenced in the halfhearted formal protests lodged by some Organization of American States' member nations, and by some of our political adversaries in the United Nations. (51)

Finally, perseverance is still the great unknown. It will be years before the political, economic, and military destruction in Panama is corrected. Whether that recovery

will result in a strong American ally ready to accept responsibility for the operation of the Panama Canal is as much in the United States government's hands as it is in the hands of the Panamanian government. How we nurture Panama back to health will be the determining factor. It is certain, however, that operation "Just Cause" is far from over. The rebuilding of Panama will ultimately determine if the exceptional combat actions were a short-term solution to a long-term failure. (52)

### Conclusions

FM 100-5, Operations, as written in 1986 is the Army's keystone warfighting manual. Although its tenets were to cover the whole operational continuum, its imperatives were purely focused on the conduct of combat operations. FM 100-5 clearly addresses this in the first sentence on AirLand Battle doctrine. It states, "AirLand Battle doctrine describes the Army's approach to generating and applying combat power at the operational and tactical levels". (53) Accordingly, when its imperatives speak to war, they are speaking in the sense of "general" or declared war. As a result, elaboration on AirLand Battle doctrine and the missions of forward deployment and responsive reinforcement in FM 100-5 do not specifically address military/political relationships, post-combat

reconstruction, or other non-combat issues. This position was acceptable in 1982 and in 1986, because the threat toward which the manual was primarily focused was a general war with the Soviet Union and its Warsaw Pact allies. As the perceived most dangerous and most likely threat to national security, that focus was justified. (54)

In 1990, the Soviet Union continues to be the most dangerous threat, and continues to justify forward deployment as a primary mission. However, the most likely threat is changing to Third World operations adverse to the United States' strategic policy and goals. Accordingly, the AirLand Battle Future study and the Army Chief of Staff have posited that contingency operations and its supportive doctrine will receive the same emphasis as forward deployment and operations in general war. These operations will guide the future development of U.S. Army doctrine, structure, and training. This position taken by the AirLand Battle Future study and the Chief of Staff of the Army is supported by one undeniable fact: Since AirLand Battle doctrine was approved eight years ago, U.S. forces have conducted two significant contingency operations but have not been involved in a general war with Soviet or Soviet surrogate conventional forces. (55)

The change in mission emphasis that now gives equal weight to contingency operations and forward deployment, necessitates a review of the imperatives of AirLand Battle doctrine. As has been documented in both contingency

operations reviewed, the AirLand Battle imperatives proved valid for the combat portion of each operation. However, transition from combat operations to civil-military operations appeared to go poorly due to a lack of planning in this area commensurate with the planning for combat operations. Although clearly within the responsibility of the contingency force commander, this transition period prior to transfer of control to a purely political chain of command is not addressed in the Army's current operational manual, FM 100-5. These operations short of conventional combat must be addressed in the future imperatives of the manual. This is a primary requirement if the Army is to execute as successfully in the areas of transition as it has in the combat portion of contingency operations. (56)

A possible solution to this apparent inadequacy in the AirLand Battle imperatives is to incorporate the imperatives from FM 100-20 in some manner. This could be done through simple addition to the imperatives as they currently exist. Other possibilities would call for a substantial overhaul of the imperatives by consolidating essential aspects of the FM 100-20 imperatives with newly developed imperatives for FM 100-5. (57)

Regardless of method for integrating the key concepts of political dominance, adaptability, perseverance, legitimacy, and unity of effort, future U.S. Army operations, whether in the European Region or in any other area of the world, will have to consider these as imperatives for operational

success. Direct combat in future operations will be tied to operations short of war. This will include periods prior to the application of combat force as well as after. Those civil-military operations will be the partial or total responsibility of the operational commander. The tactical aspects of operations short of war can be left to a subordinate manual such as FM 100-20, just as subordinate manuals to FM 100-5 handle the tactical aspects of combat. However, failure to address operations short of war in a manner commensurate with combat will impart an insidious weakness to our doctrine for future contingency operations. (58)



## ENDNOTES

1. U.S. Army. Field Manual 100-5, Operations, Washington, D.C., U.S. Government Printing Office, May 1986. pp. 22-23.
2. U.S. Army. The United States Army Posture Statement FY 90/91. Department of the Army, 1989. inset of front cover.
3. Vuono, Carl E., General. "The United States Army is a Strategic Force", Armed Forces Journal International, February 1989. pp. 1-2.
4. U.S. Army. Field Manual 100-5, Operations, Washington, D.C., U.S. Government Printing Office, May 1986. p. 23.
5. U.S. Army. Field Manual 100-5, Operations, Washington, D.C., U.S. Government Printing Office, May 1986. pp.22-23. See also Kempf, Stephen J., Col, USA. "AirLand Battle Future Study", Director, Concepts and Force Alternatives Directorate, U.S. Army Combined Arms Center, Ft. Leavenworth, KS, 1989. p.14.
6. Bacevich, A.J. The Pentomic Era: The U.S. Army Between Korea and Vietnam. Washington, D.C., National Defense University Press, 1986. pp. 143-157. See also U.S. Army. Field Manual 100-5, Operations, Washington, D.C., U.S. Government Printing Office, May 1986. p.6 See also Romjue, John L. "From Active Defense to AirLand Battle: The Development of Army Doctrine 1973-1982". TRADOC Historical Monograph Series, Historical Office, Fort Monroe, VA., June 1984. See Also U.S. Army. The United States Army Posture Statement FY 90/91. Department of the Army, 1989. inset of front cover.
7. U.S. Army. Field Manual 100-5, Operations, Washington, D.C., U.S. Government Printing Office, May 1986. p.6 See also U.S. Army. Field Manual 100-20, Military Operations in Low Intensity Conflict, Washington, D.C., U.S. Government Printing Office, December, 1989. p. 1-8.
8. Ibid. pp. 23-26. AirLand Battle imperatives definitions.
  - a. "ENSURE UNITY OF EFFORT - Commands must not only ensure unity of effort within their own organizations, but must also promote it with supporting and supported elements as well as with sister services and allies. The fundamental prerequisite for unity of effort within Army organizations is an effective system of command which relies upon leadership to provide purpose, direction, and motivation; emphasizes well-understood common doctrine, tactics, and techniques as well as sound unit standing operating procedures (SOPs); and takes effective measures to limit the effects of friction. Leaders set the example, communicate their intent clearly, build teamwork, promote

sound values, accept responsibility, delegate authority, anticipate developments, take decisive actions, and accept risks. Command and control systems emphasize implicit coordination measures such as sound training in a common doctrine, standing operating procedures, methods, and techniques, and well-rehearsed battle drills. Missions are clear and concise. Plans are simple. Control mechanisms are easy to apply, understand, and communicate. Habitual relationships are used to maximize teamwork. A main effort is always clearly designated and ground plans are thoroughly coordinated with plans for air support. All actions throughout the force are performed so as to ensure the success of the main effort. Liaison among units must be automatic and effective."

b. "ANTICIPATE EVENTS ON THE BATTLEFIELD - The commander must anticipate the enemy's actions and reactions and must be able to foresee how operations may develop. Predictions about the enemy and even our own troops can never be relied on with certainty, but it is nevertheless essential to anticipate what is possible and likely and prepare for those possibilities. Anticipating events and foreseeing the shape of possibilities hours, days, or weeks in the future are two of the most difficult skills to develop, yet among the most important. They require wisdom, experience, and understanding of the enemy's methods, capabilities, and inclinations, outstanding intelligence, and confidence in the knowledge of how one's own forces will perform. Anticipation and foresight are critical to turning inside the enemy's decision cycle and maintaining the initiative."

c. "CONCENTRATE COMBAT POWER AGAINST ENEMY VULNERABILITIES - Concentrating combat power against enemy vulnerabilities is also fundamental to AirLand Battle operations. Commanders must seek out the enemy where he is most vulnerable to defeat. To know what his vulnerabilities are, commanders must study the enemy, know and take into account his strengths, find his inherent vulnerabilities, and know how to create new vulnerabilities which can be exploited to decisive effect. Having identified or created enemy vulnerabilities, the commander must have the mental and organizational flexibility to shift his main effort as necessary to gain the greatest possible advantage. Combat power must be concentrated to reach points of enemy vulnerability quickly without loss of synchronization."

d. "DESIGNATE, SUSTAIN, AND SHIFT THE MAIN EFFORT - In operations characterized by initiative, agility, depth, and synchronization, it is imperative that commanders designate, sustain and shift the main effort as necessary during operations. The main effort is assigned to the element with the most important task to accomplish within the commander's concept. The commander concentrates his support to ensure quick success by this element. The commander identifies the main effort when he states his concept of the operation. This provides a focus of effort

that each subordinate commander uses to link his actions to the actions of those around him. The main effort assures synchronization in the operation while leaving the greatest possible scope for initiative. During operations, the main effort is sustained with supporting forces and assets. If conditions change and success of the overall mission can be obtained more cheaply or quickly another way, the commander shifts his main effort to another force. Priorities of support also change to assure the success of the newly designated main effort."

e. "PRESS THE FIGHT - Commanders must press the fight tenaciously and aggressively. Campaigns or battles are won by the force that is most successful in pressing its main effort to a conclusion. To sustain the momentum of early successes, leaders must deploy forces in adequate depth and arrange for timely and continuous combat support and combat service support at the outset of operations. Then, they must accept risks and tenaciously press soldiers and systems to the limits of endurance for as long as necessary."

f. "MOVE FAST, STRIKE HARD, AND FINISH RAPIDLY - Speed has always been important to combat operations, but it will be even more important on the next battlefield because of the increasing sophistication of sensors and the increasing lethality of conventional, nuclear, and chemical fires. To avoid detection, our force concentrations must be disguised. To avoid effective counterstrikes, they must be brief. Engagements must be violent to shock, paralyze, and overwhelm the enemy force quickly. They must be terminated rapidly to allow the force to disperse and avoid effective enemy counterstrikes."

g. "USE TERRAIN, WEATHER, DECEPTION, AND OPSEC - Terrain and weather affect combat more significantly than any other physical factors. Battles are won or lost by the way in which combatants use the terrain to protect their own forces and to destroy those of the enemy. The ground and the airspace immediately above it have an immense influence on how the battle will be fought. They provide opportunities and impose limitations, giving a decisive edge to the commander who uses them best. The impact of weather on ground and air mobility and the effect both have on weapons will affect tactics and the timing and course of operations. One of the best investments of the commander's time before battle is an intensive, personal reconnaissance of the terrain. Similarly, effective deception and tight operations security can enhance combat power by confusing the enemy and reducing his fore-knowledge of friendly actions."

h. "CONSERVE STRENGTH FOR DECISIVE ACTION - Successful commanders conserve the strength of their forces to be stronger at the decisive time and place. Commanders must minimize the diversion of resources to nonessential tasks and retain a reserve for commitment when needed most. Commanders must also keep troops secure, protected, healthy, disciplined, and in a high state of morale. In

addition they must keep equipment ready and stocks of supplies available for commitment when needed. Finally, units must be maintained in a high state of training. Dispersed and rapid movement, proper formations, covered and concealed fighting positions, aggressive patrolling, good operations security, protection of troops and equipment from adverse weather and disease, and good supply and maintenance discipline are all examples of measures which conserve a force's strength."

1. 'COMBINE ARMS AND SISTER SERVICES TO COMPLEMENT AND REINFORCE - The greatest combat power results when weapons and other hardware, combat and supporting arms, Army units, and other service elements of different capabilities are employed together to complement and reinforce each other. Arms and services complement each other by posing a dilemma for the enemy. As he evades the effects of one weapon, arm, or service, he exposes himself to attack by another. At the level of weapons systems, one good example of complementary combined arms employment would be the use of guns and missiles in the air defense of a key installation. Another would be using mines, mortars, or grenade launchers to cover the dead space of a machine gun's field of fire. A tactical example of complementary combined arms would be combining infantry and armor in task forces or combining infantry-heavy and armor-heavy task forces in brigades. Another example of tactical level complementary combined arms employment between the services is when Air Force Aircraft attack tanks in defilade and out of reach of direct ground fires and attack helicopters while artillery and direct fires suppress enemy air defenses. At the operational level, an example would be Air force Air Superiority operations and ground maneuver, or employing light infantry formations in highly mountainous regions to free armor and mechanized forces for use in less restricted areas."

"Arms and services reinforce each other when one increases the effectiveness of another or several combine to achieve mass. Some examples at the technical level would be engineers helping to develop an infantry strong point which greatly enhances the combat power of the infantry, the scout helicopter spotting targets for the attack helicopter, artillery suppression of enemy fires during an assault, or the massing of all antitank fires against an armored threat. Tactically, reinforcement might involve concentrating all types of maneuver forces or fires to create mass. It might also involve heliborne lift of light infantry. Operationally, it could mean using Naval amphibious shipping or Air Force tactical airlift to deliver soldiers to the battlefield, intelligence support to Army units from Air Force, Naval, or national sources, Air Force interdiction to support maneuver on the ground, or U.S. army units protecting air bases from ground attack."

"Ideally, both effects are combined in one action as when mines, artillery, and tanks combine to defeat an

attack. All three reinforce to damage the enemy simultaneously to some degree. The mines and artillery fire slow the enemy and complement the tank fire which can obtain more hits against the stalled enemy."

j. "UNDERSTAND THE EFFECT OF BATTLE ON SOLDIERS, UNITS, AND LEADERS - Commanders and their staffs must understand the effects of battle on soldiers, units, and leaders because war is fundamentally a contest of wills, fought by men not machines. Ardant DuPiq, a 19th century soldier and student of men in battle, reminded us that "you can reach into the well of courage only so many times before the well runs dry." Even before that, Marshall De Saxe writing in the 18th century, pointed out that "A soldier's courage must be reborn daily," and went on to say that the most important task of leaders was to understand this, to care for and prepare soldiers before battle, and to use tactics during battle which take this into account."

"Commanders must understand that in battle, men and units are more likely to fail catastrophically than gradually. Commanders and staffs must be alert to small indicators of fatigue, fear, indiscipline, and reduced morale, and take measures to deal with these before their cumulative effects drive a unit to the threshold of collapse. Staffs and commanders at higher levels must take into account the impact of prolonged combat on subordinate units. Military organizations can fight at peak efficiency for only so long. Prolonged demands of combat cause efficiency to drop even when physical losses are not great. Well trained, physically fit soldiers in cohesive units retain the qualities of tenacity and aggressiveness longer than those which are not."

"Good leadership makes the vital difference in the staying power and effectiveness of units. Although all units experience peaks and valleys in combat effectiveness, well-trained, cohesive units under good leadership sustain far higher average effectiveness. Staffs and commanders need to take this variance in performance into account in their planning by matching units to missions, rotating units through difficult tasks to permit recuperation to the extent possible, and by basing their expectations of a unit's performance on a full knowledge of its current capabilities."

"Because modern combat requires greater dispersal of units, the quality and effectiveness of junior leaders has a proportionately greater impact. Prior to combat, senior leaders must place great emphasis on junior leader development. During combat, commanders must monitor and take measures to sustain the effectiveness of leaders to the extent possible."

9. U.S. Army. Field Manual 100-20, Military Operations in Low Intensity Conflict, Washington, D.C., U.S. Government Printing Office, December, 1989. pp. 1-8 thru 1-10. LIC imperatives definitions.

a. "POLITICAL DOMINANCE - In LIC operations, political objectives drive military decisions at every level from the strategic to the tactical. All commanders and staff officers must understand these political objectives and the impact of military operations on them. They must adopt courses of action which legally support those objectives even if the courses of action appear to be unorthodox or outside what traditional doctrine had contemplated."

b. "UNITY OF EFFORT - Military leaders must integrate their efforts with other governmental agencies to gain a mutual advantage in LIC. Military planners must consider how their actions contribute to initiatives which are also political, economic, and psychological in nature. Unity of effort calls for interagency integration and coordination to permit effective action within the framework of our governmental system. Commanders may answer to civilian chiefs or may themselves employ the resources of civilian agencies."

c. "ADAPTABILITY - Adaptability is the skill and willingness to change or modify structures or methods to accommodate different situations. It requires careful mission analysis, comprehensive intelligence, and regional expertise. Adaptability is more than just tailoring or flexibility, both of which imply the use of the same techniques or structures in many different situations. Successful military operations in LIC will require the armed forces to use adaptability not only to modify existing methods and structures, but to develop new ones appropriate to each situation."

d. "LEGITIMACY - Legitimacy is the willing acceptance of the right of a government to govern or of a group or agency to make and enforce decisions. Legitimacy is not tangible, nor easily quantifiable. Popular votes do not always confer or reflect legitimacy. Legitimacy derives from the perception that authority is genuine and effective and uses proper agencies for reasonable purposes. No group or force can create legitimacy for itself, but it can encourage and sustain legitimacy by its actions. Legitimacy is the central concern of all parties directly involved in a conflict. It is also important to other parties who may be involved even indirectly."

e. "PERSEVERANCE - Low intensity conflicts rarely have a clear beginning or end marked by decisive actions culminating in victory. They are, by nature, protracted struggles. Even those short, sharp contingency encounters which do occur are better assessed in the context of their contribution to long-term objectives. Perseverance is the patient, resolute, persistent pursuit of national goals and objectives for as long as necessary to achieve them. Perseverance does not preclude taking decisive action. However, it does require careful, informed analysis to

select the right time and place for that action. While it is important to succeed, it is equally important to recognize that in the LIC environment success will generally not come easily or quickly. Developing an attitude of disciplined, focused perseverance will help commanders reject short-term successes in favor of actions which are designed to accomplish long-term goals."

10. U.S. Army. The United States Army Posture Statement FY90/91. Department of the Army, 1989. p.iii. See also Kempf, "AirLand Battle Future Study". Director, Concepts and Force Alternatives Directorate, U.S. Army Combined Arms Center, Ft. Leavenworth, KS., 1989. pp. 14-15.

11. Kempf, Stephen J. COL, USA. "AirLand Battle Future Study". Director, Concepts and Force Alternatives Directorate, U.S. Army Combined Arms Center, Ft. Leavenworth, KS., 1989. pp. 1,14-15.

12. Ibid, pp. 5-7. See also Vuono, Carl E., General, USA. "The United States Army is a Strategic Force", Armed Forces Journal International, February 1989. pp.9-12.

13. Ibid, pp. 10-12.

14. Ibid, pp. 12-15.

15. Ibid, p. 14. See also JCS PUB 5-00.2, Joint Task Force (JTF) Planning Guidance and Procedures. Washington, D.C., U.S. Government Printing Office, June 1988. pp. I-1 - I-3. See also JCS PUB 5-02.1, Joint Operation Planning System Volume I: Deliberate Planning Procedures. Washington, D.C., U.S. Government Printing Office, July 1988. pp. I-5 - I-9. See also JCS PUB 5-02.4, Joint Operation Planning System Volume IV: Crisis Action Procedures. Washington, D.C., U.S. Government Printing Office, July 1988. pp. I-1 - I-6.

16. Bolger, Daniel P. "Operation Urgent Fury and Its Critics". Military Review, Vol. LXVI, July 1986, pp. 58,62.

17. Luttwak, Edward N. The Pentagon and the Art of War. New York, New York, Simon and Schuster Publication, 1984. pp. 51-53.

18. Schemmer, Benjamin F. "JCS Reply to Congressional Reform Caucus' Critique of the Grenada Rescue Operation", Armed Forces Journal International, Vol. 121, No. 12, July 1984. pp. 12-18

19. Bolger, Daniel P. "Operation Urgent Fury and Its Critics". Military Review, Vol. LXVI, July 1986, p. 60.

20. Silvasy, Stephen JR. "Urgent Fury Briefing", tape recorded at the Army War College, October, 1983.

21. Schemmer, Benjamin F. "JCS Reply to Congressional Reform Caucus' Critique of the Grenada Rescue Operation", Armed Forces Journal International, Vol. 121, No. 12, July 1984. pp. 12, 14.
22. Ibid, p. 13. See also Metcalf, Joseph III., Vice Admiral, USN. "Decision Making and the Grenada Rescue Operation". pp. 8, 11-12, 17, 19-20.
23. Metcalf, Joseph III., Vice Admiral, USN. "Decision Making and the Grenada Rescue Operation". pp. 5-7.
24. Luttwak, Edward N. The Pentagon and the Art of War. New York, New York, Simon and Schuster Publication, 1984. pp. 53-57. See also Schemmer, Benjamin F. "JCS Reply to Congressional Reform Caucus' Critique of the Grenada Rescue Operation", Armed Forces Journal International, Vol. 121, No. 12, July 1984. pp. 12, 14.
25. Metcalf, Joseph III., Vice Admiral, USN. "Decision Making and the Grenada Rescue Operation. pp. 7-8. See also Schemmer, Benjamin F. "JCS Reply to Congressional Reform Caucus' Critique of the Grenada Rescue Operation", Armed Forces Journal International, Vol. 121, No. 12, July 1984, p. 13.
26. Bolger, Daniel P. "Operation Urgent Fury and Its Critics". Military Review, Vol. LXVI, July 1986. pp. 62-63. See also Luttwak, Edward N. The Pentagon and the Art of War. New York, New York, Simon and Schuster Publication, 1984. pp. 56-57.
27. Metcalf, Joseph III., Vice Admiral, USN. "Decision Making and the Grenada Rescue Operation". pp. 10-14.
28. Silvasy, Stephen JR., Brigadier General, USA. "Urgent Fury Brief", tape recorded at the Army War College, October 1983.
29. Metcalf, Joseph III., Vice Admiral, USN. "Decision Making and the Grenada Rescue Operation". pp. 1-10. see also Lewis, Gordon K. Grenada: The Jewel Despoiled. Baltimore and London, The Johns Hopkins University Press, 1987. CH. 12 and 17.
30. Lewis, Gordon K. Grenada: The Jewel Despoiled. Baltimore and London, The Johns Hopkins University Press, 1987, pp. 100-101, 104-107.
31. Ibid, pp. 110-112. see also Luttwak, Edward N. The Pentagon and the Art of War. New York, New York, Simon and Schuster Publication, 1984. pp. 57-58.
32. Ibid, pp. 99.



33. Metcalf, Joseph III., Vice Admiral, USN. "Decision Making and the Grenada Rescue Operation". pp. 1-5.
34. Lewis, Gordon K. Grenada: The Jewel Despoiled. Baltimore and London, The Johns Hopkins University Press, 1987, pp. 179-181, 187-189.
35. Hartzog, William W., BG, USA. "'Just Cause' briefing", School of Advanced Military Studies, March 2, 1990.
36. Ropelewski, Robert R. "Planning, Precision, and Surprise Led to Panama Successes", Armed Forces Journal International, Vol. 127, No. 7, February 1990, pp. 26-27. See also JCS PUB 5-02.1, Joint Operation Planning System Volume I: Deliberate Planning Procedures. Washington, D.C., U.S. Government Printing Office, July 1988. pp. I-5 - I-9.
37. Ibid, pp. 26-27. See also Hartzog, William W., BG, USA. "'Just Cause' briefing", School of Advanced Military Studies, March 2, 1990.
38. Hartzog, William W., BG, USA. "'Just Cause' briefing", School of Advanced Military Studies, March 2, 1990. See also Stiner, Carl, LTG, USA (an interview with). "The Architect of 'Just Cause'", Army Times, No. 31, March 12, 1990, pp. 14-15.
39. Ibid. See also Ropelewski, Robert R. "Planning, Precision, and Surprise Led to Panama Successes", Armed Forces Journal International, Vol. 127, No. 7, February 1990, p. 28.
40. Luttwak, Edward N. The Pentagon and the Art of War. New York, New York, Simon and Schuster Publication, 1984. pp. 56-57, (specifically in reference to execution of a coup de main). See also Hartzog, William W., BG, USA. "'Just Cause' briefing", School of Advanced Military Studies, March 2, 1990. See also Ropelewski, Robert R. "Planning, Precision, and Surprise Led to Panama Successes", Armed Forces Journal International, Vol. 127, No. 7, February 1990, pp. 27-28.
41. Hartzog, William W., BG, USA. "'Just Cause' briefing", School of Advanced Military Studies, March 2, 1990. See also Ropelewski, Robert R. "Planning, Precision, and Surprise Led to Panama Successes", Armed Forces Journal International, Vol. 127, No. 7, February 1990, p. 32.
42. Ibid. See also Ropelewski, Robert R. "Planning, Precision, and Surprise Led to Panama Successes", Armed Forces Journal International, Vol. 127, No. 7, February 1990, pp. 26, 28.

43. Steel, Dennis. "Operation Just Cause", Army Magazine, Vol. 40, No. 2, February 1990, pp. 34-38. See also Ropelewski, Robert R. "Planning, Precision, and Surprise Led to Panama Successes", Armed Forces Journal International, Vol. 127, No. 7, February 1990, pp. 28, 32.
44. Ibid. See also Ropelewski, Robert R. "Planning, Precision, and Surprise Led to Panama Successes", Armed Forces Journal International, Vol. 127, No. 7, February 1990, p. 28.
45. Ibid.
46. Steel, Dennis. "Operation Just Cause", Army Magazine, Vol. 40, No. 2, February 1990, pp. 36-40. See also Ropelewski, Robert R. "Planning, Precision, and Surprise Led to Panama Successes", Armed Forces Journal International, Vol. 127, No. 7, February 1990, pp. 28, 32.
47. Rowe, Charles W. CWO, USMC. "Operation Just Cause: Task Force 'Semper Fidelis'", Marines, Vol. 19, No. 2, February 1990, pp. 4-5. See also Ropelewski, Robert R. "Planning, Precision, and Surprise Led to Panama Successes", Armed Forces Journal International, Vol. 127, No. 7, February 1990, pp. 26-28.
48. Hartzog, William W., BG, USA. "'Just Cause' briefing", School of Advanced Military Studies, March 2, 1990. See also Ropelewski, Robert R. "Planning, Precision, and Surprise Led to Panama Successes", Armed Forces Journal International, Vol. 127, No. 7, February 1990, p. 28.
49. Ibid.
50. Ibid.
51. Ropelewski, Robert R. "Planning, Precision, and Surprise Led to Panama Successes", Armed Forces Journal International, Vol. 127, No. 7, February 1990, p. 26-28.
52. Hartzog, William W., BG, USA. "'Just Cause' briefing", School of Advanced Military Studies, March 2, 1990. See also Ropelewski, Robert R. "Planning, Precision, and Surprise Led to Panama Successes", Armed Forces Journal International, Vol. 127, No. 7, February 1990, p. 32.
53. U.S. Army. Field Manual 100-5, Operations, Washington, D.C., U.S. Government Printing Office, May 1986. pp. 14.
54. U.S. Army. Field Manual 100-5, Operations, Washington, D.C., U.S. Government Printing Office, May 1986. pp. i, 14. See also U.S. Army. The United States Army Posture Statement FY 90/91. Department of the Army, 1989. pp. 1, 7-9.

55. Kempf, Stephen J. COL, USA. "AirLand Battle Future Study". Director, Concepts and Force Alternatives Directorate, U.S. Army Combined Arms Center, Ft. Leavenworth, KS., 1989. p. 12. See also Vuono, Carl E., General, USA. "The United States Army is a Strategic Force", Armed Forces Journal International, February 1989. pp. 60-62.

56. U.S. Army. Field Manual 100-5, Operations, Washington, D.C., U.S. Government Printing Office, May 1986. pp. 4-5.

57. U.S. Army. Field Manual 100-5, Operations, Washington, D.C., U.S. Government Printing Office, May 1986. p.22 See also U.S. Army. Field Manual 100-20, Military Operations in Low Intensity Conflict, Washington, D.C., U.S. Government Printing Office, December, 1989. p. 1-8.

58. U.S. Army. Field Manual 100-20, Military Operations in Low Intensity Conflict, Washington, D.C., U.S. Government Printing Office, December, 1989. p. 1-8.

## BIBLIOGRAPHY

### Books

Bacevich, A.J. The Pentomic Era: The U.S. Army Between Korea and Vietnam. Washington, D.C., National Defense University Press, 1986.

Crevelde, Martin van. Command in War. Cambridge, Mass. Harvard University Press, 1985.

Davis, M. Thomas. 40Km into Lebanon: Israel's 1982 Invasion. Washington, D.C., National Defense University Press, 1987.

Fuller, J.F.C., Major-General. Armored Warfare. Harrisburg, Pennsylvania, The Military Service Publishing Company, 1951.

Gabriel, Richard A. Operation Peace for Galilee: The Israeli-PLO War in Lebanon. New York, New York, Hill and Wang, 1984.

Lewis, Gordon K. Grenada: The Jewel Despoiled. Baltimore and London, The Johns Hopkins University Press, 1987.

Lind, William S. Maneuver Warfare Handbook. Boulder, Co., Westview Press, 1985.

Luttwak, Edward N. The Pentagon and the Art of War. New York, New York, Simon and Schuster Publication, 1984.

Spector, Ronald H. LTC, USMC. U.S. Marines in Grenada, 1983. Washington, D.C., History and Museums Division, Headquarters, U.S. Marine Corps, 1987.

### Articles, Monographs, Papers and Conversations

Bolger, Daniel P. 'Operation Urgent Fury and Its Critics'. Military Review, Vol. LXVI, July 1986, PP. 57-69.

Canan, James W. 'Blue Christmas Coming Up', Air Force Magazine. Vol. 67, No. 1, January 1984. PP. 78-81.

DePuy, William E. 'For the Joint Specialist: Five Steep Hills to Climb', Course Readings, Course 3, AY89/90, School of Advanced Military Studies. Ft. Leavenworth, Ks., U.S. Army Command and General Staff College, May 1989.

Doughty, Robert A., MAJ, USA. 'The Evolution of U.S. Army Tactical Doctrine', Leavenworth Papers, No.1, Combat Studies Institute, Fort Leavenworth, Kansas, August 1979.

Fawcett, Robert J., LTC, USMC. "The United States Special Operations Command", Course Readings, Course 3, AY89/90, School of Advanced Military Studies. Ft. Leavenworth, Ks., U.S. Army Command and General Staff College, May 1989.

Gawrych, George W. "The Israeli Path to the Operational Art of War: Divisional Operations at the 1956 and 1967 Battles of Abu Ageila in the Sinai". Combat Studies Institute.

Hartzog, William W., BG, USA. "'Just Cause' briefing", School of Advanced Military Studies, March 2, 1990.

Kempf, Stephen J., COL, USA. "AirLand Battle Future Study". Director, Concepts and Force Alternatives Directorate, U.S. Army Combined Arms Center, Ft. Leavenworth, Ks, 1989.

Lindsay, James J., General. "The Quiet Professionals", Course Readings, Course 3, AY89/90, School of Advanced Military Studies. Ft. Leavenworth, Ks., U.S. Army Command and General Staff College, May 1989.

Luttwak, Edward N. "The Operational Level of War", International Security, Winter 1980/81, Vol. 5, No. 3, Fellows of Harvard College and the Massachusetts Institute of Technology, 1981, pp. 61-79.

Metcalf, Joseph III., Vice Admiral, USN. "Decision Making and the Grenada Rescue Operation", AAR prepared for the U.S. Navy on decision making processes, 1984.

O'Brien, William V. "Special Operations in the 1980s: American Moral, Legal, Political, and Cultural Constraints", Special Operations in U.S. Strategy, by Frank R. Barnett, B. Hugh Tover, and Richard H. Shultz. Washington, D.C., National Strategy Information Center, and National Defense University, 1984.

Romjue, John L. "From Active Defense To AirLand Battle: The Development of Army Doctrine 1973-1982". TRADOC Historical Monograph Series, Historical Office, Fort Monroe, Va., June 1984.

Ropelewski, Robert R. "Planning, Precision, and Surprise Led to Panama Successes", Armed Forces Journal International, Vol. 127, No. 7, February 1990, PP. 26-32.

Rowe, Charles W. CWO, USMC. "Marine Forces Panama help launch preemptive strike", Marines, Vol. 19, No. 1, January 1990, P. 3.

\_\_\_\_\_. "Operation Just Cause: Task Force 'Semper Fidelis'". Marines, Vol. 19, No. 2, February 1990, PP. 4-5.

Schemmer, Benjamin F. "JCS Reply to Congressional Reform Caucus' Critique of the Grenada Rescue Operation", Armed Forces Journal International, Vol. 121, No. 12, July 1984, PP. 12-18, 99.

Schneider, James J. "The Loose Marble - and the Origins of Operational Art", Course Readings, Course 1, AY89/90, School of Advanced Military Studies. Ft. Leavenworth, Ks., U.S. Army Command and General Staff College, May 1989.

\_\_\_\_\_. "The Theory of Operational Art", Theoretical Paper No. 3, Course Readings, AY89/90, School of Advanced Military Studies. Ft. Leavenworth, Ks., U.S. Army Command and General Staff College, May 1989.

Silvasy, Stephen JR., BG, USA. "'Urgent Fury' briefing", tape recorded at the Army War College, October 1983.

Steel, Dennis. "Operation Just Cause", Army Magazine, Vol. 40, No. 2, February 1990, PP. 34-44.

Stiner, Carl LTG, USA (an interview with). "The Architect Of 'Just Cause'", Army Times, No. 31, March 12, 1990, PP. 14-18, 68-69.

Swain, Richard M., COL. "Removing Square Pegs from Round Holes: Low-Intensity Conflict in Army Doctrine", Course Readings, Course 1, AY89/90, School of Advanced Military Studies. Ft. Leavenworth, Ks., U.S. Army Command and General Staff College, May 1989.

Vuono, Carl E., General. "The United States Army is a Strategic Force", Armed Forces Journal International, February 1989.

#### Military Publications

Armed Forces Staff College. PUB 1, The Joint Staff Officer's Guide: 1988. Washington, D.C., U.S. Government Printing Office, 1988.

FM 100-5, Operations. Washington, D.C., U.S. Government Printing Office, May 1986.

FM 100-20, Military Operations In Low Intensity Conflict. Washington, D.C., U.S. Government Printing Office, December 1989.

JCS PUB 5-00.2, Joint Task Force (JTF) Planning Guidance and Procedures. Washington, D.C., U.S. Government Printing Office, June 1988.

JCS PUB 5-02.1, Joint Operation Planning System Volume I: Deliberate Planning Procedures. Washington, D.C., U.S. Government Printing Office, July 1988.

JCS PUB 5-02.4, Joint Operation Planning System Volume IV: Crisis Action Procedures. Washington, D.C., U.S. Government Printing Office, July 1988.

U.S. Army. The United States Army Posture Statement FY 90/91. Department of the Army, 1989.

United States Congress. "Goldwater-Nichols Department of Defense Reorganization Act of 1986", Washington, D.C., U.S. Printing Office, 1986.

United States Marine Corps. FMFM 1, Washington, D.C., Department of the Navy, 6 March, 1989.